Preserving Pasture and Native Grasslands is a Priority for the Federally Endangered **American Burying Beetle**

NRCS Rhode Island is not burying its head in the sand when it comes to Protection of Threatened & Endangered Species

Known for its scenic ocean views, hiking trails, and great birding, Block Island, which lies 12 miles off the southern coast of Rhode Island, is a favored tourist destination for many nature lovers. In addition to its overall pastoral charm and wealth of protected open space (about 1/3 of the 10 square mile island), the island is home to over 40 rare and endangered plant and animal species. One of these is the federally-listed, endangered American burying beetle (*Nicrophorus americanus*).

Photo, courtesy of US Fish & Wildlife

This orange spotted, nocturnal beetle is a scavenger, feeding on the bodies of small mammals and birds. During the breeding season, larger carcasses such as pheasant chicks are optimal. Burying beetles provide an unusually high level of parental care among non-social insects. Together a male and female beetle will bury a carcass, remove feathers or fur, roll the carcass into a ball and then cover it in sticky mucus, which prevents the carcass from decaying too quickly. In a chamber near the buried body, the female then lays 20 to 30 eggs, which hatch into larva. The parents then stay with the larva to feed them regurgitated food. While its feeding habits may sound unappealing, scavengers play an important role in recycling nutrients in the environment. And at 3 cm long, the beetles are the largest member of the carrion beetle family, Silphidae, in North America.

Historically found throughout much of central and eastern U.S., as well as portions of southern Canada, the beetle is now relegated to only a few known spots in North America, with Block Island supporting the only remaining natural population on the entire east coast. The pastures, hay fields, and other agricultural grasslands of Block Island are of particular interest as it is in these grasslands, most notably on the southern end of the island, where the majority of the Island's burying beetles are breeding. With the beetles depending heavily on the carcasses of large grassland birds as a source of food for their larvae, the grasslands of Block Island are of particular importance.

The Rhode Island NRCS is currently involved in two restoration projects in the heart of American burying beetle territory. One of the projects is happening at Black Rock Farm. The farm, owned by the Rhode Island Department of Environmental Management and the Town of New Shoreham, is a mix of pasture, hayland, shrubland, and wetlands. Here, with assistance from Wildlife Habitat Incentives Program, grassland expansion, through shrub clearing and warm season grass planting, in addition to routine grassland maintenance through mowing, is taking place. These efforts should not only improve habitat for American burying beetles, but for American woodcocks, savannah sparrows and other grassland species, as well.

Aerial of the Lewis-Dickens

The Lewis-Dickens Farm, an Audubon Society property currently used as pasture land by a local farmer, is the site of the other NRCS project aimed at improving American burying beetle habitat. Since moderate grazing thwarts woody plant growth and provides small soil disturbances, both of which enhance grassland quality for the burying beetle and the birds on which they depend, Audubon wishes to maintain the land as pasture for cows. However, while the cows are generally beneficial, they have created an area of localized erosion. By making continual trips to a kettle pond, the cows have formed a gulley and rainwater now flows down the gulley washing both soil and manure into the pond, resulting in significant sedimentation and nitrification. Through the Environmental Quality Incentives Program, watering troughs, filled with water pumped from the pond, are to be erected in several locations throughout the property. Due to the remote location of these grasslands, a solar powered pump will be used to fill the watering trough. The pond will be fenced off and a diversion installed, diverting the rainwater away from the gulley into vegetated areas. This will minimize further erosion of the exposed soil and allow the gulley to re-vegetate, thereby restoring water quality and grassland habitat.

The Nature Conservancy and the U.S. Fish and Wildlife Service have established a population monitoring protocol. An upward trend in beetle populations has been noted on areas where habitat restoration has occurred on Block Island. Hopefully, the American burying beetle's population will expand even further as a result of improvement projects made possible through the partnering of NRCS with concerned landowners.